

ABSTRACT

A supersonic jet burner by the present invention comprises a cylindrical
5 burner main body 1 having a combustion path on its central axis; a fuel filling
nozzle unit 3 arranged at a base of the main body, wherein a tip nozzle of the
nozzle unit 3 is arranged to face a base of the combustion path; a first
10 combustion chamber 4 formed ahead of the nozzle unit; a plurality of first air
ejecting ports A circularly arranged so as to surround the first combustion
chamber and facing to the combustion path so as to form a swirling combustion
flow section X; a circularly arranged plurality of second air ejecting ports B
capable of ejecting whirling flows of high pressure air heated in a high pressure
air flowing passage 15 formed around the outer periphery of the main body 1 so
as to form a whirling high temperature combustion section Y; a second
15 combustion chamber 21 arranged ahead of the whirling high temperature
combustion section Y; a narrowly drawn shock wave conversion section Z for
raising a flow rate of combustion gas up to more than the sonic speed formed as
the tip of the cylindrical main body 1.